DOCUMENT RESUME

ED 237 660 CE 037 536

AUTHOR Dik, David W.; Giacomi, Katherine W.
TITLE 60 Apples--Utilizing Electronic Technology to Enhance and Enrich Adult Learning.
PUB DATE Nov 83
NOTE 56p.
AVAILABLE FROM Cornell Cooperative Extension, 111 Roberts Hall, Cornell University, Ithaca, NY 14853 ($3.00).
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Adult Education; *Adult Programs; Adult Students; Computer Assisted Instruction; *Computer Literacy; Computer Oriented Programs; Computer Programs; Computers; Educational Needs; Educational Objectives; *Microcomputers; Participant Characteristics; Postsecondary Education; *Program Development; Program Effectiveness; Program Implementation; Programing; *Rural Education; Word Processing
IDENTIFIERS Apple II; New York (Steuben County)

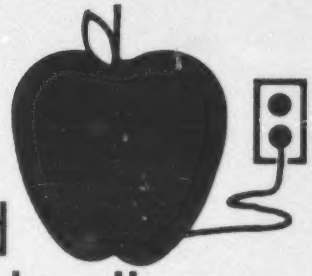
ABSTRACT

A project was conducted to introduce adults in a rural community in New York to Apple computers. Adults in the Addison School District of Steuben County were recruited through the county cooperative extension program and through high school and elementary school bulletins. Four courses were conducted with from 10 to 25 adults in each four-part course. The courses aimed to make adults computer literate, to show them how the computer could be of help in their businesses or farms, and to familiarize them with what their children were learning in school. The four sessions of the course focused on the following topics: introduction and overview, subject matter exercises, word processing, and programming and evaluation. Program participants were almost uniformly enthusiastic about their experience with computers. Most would be willing to continue to learn more about computer, and none demonstrated the "computerphobia" that had been expected. The project directors did note, however, that a course in typing would be beneficial to all persons before they start to learn to use computers and would alleviate the frustration of laboriously pecking out sentences to learn how to use the word processor. (Suggestions for program development are given in the document appendix.) (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED237660

"60 apples — utilizing electronic technology to enhance and enrich adult learning"



David W. Dik — Katherine W. Giacomi — November 1983

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

D Dik

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE037536

DAVID W. DIK

David W. Dik holds a B.S. degree from the University of Massachusetts, Amherst, and a M.Ed. from State College at Fitchburg, Massachusetts. He also studied at the Hartford Theological Seminary, Hartford, Connecticut. Additional graduate work has been completed at Syracuse University and Cornell University. He presently is a Ph.D. candidate at The Union Graduate School, Cincinnati, Ohio. His studies are in the area of adult education with a focus on utilizing electronic technology to enhance and enrich adult learning. Presently, he is employed by Cornell University Cooperative Extension, Ithaca, New York, serving in the capacity of Assistant Director.

KATHERINE W. GIACOMI

Katherine W. Giacomi is a Program Leader, Home Economics, for Steuben County Cooperative Extension, Bath, New York. She received a B.S. degree from State University at Oneonta, New York, and a M.S. in textiles and clothing from Cornell University, Ithaca, New York. Additional graduate study has also been completed at the University of Arizona. Listeners of radio stations WHHO, Hornell, New York, and WCLI, Corning, New York, as well as the television viewers of WETM-TV, Elmira, New York, benefit regularly from her consumer tips. Several of her recent programs have focused on consumer decisions relating to the selection, purchase, and use of computers. She is providing leadership for computer programming for adults in Steuben County.

PREFACE

The intent of this report is not to provide program descriptions in overly elaborate detail. The main focus is on ideas which can be adapted, expanded, or challenged and utilized with adults anywhere in the world.

It is hoped that the excitement of our present environment for adult education is conveyed in the report. Adult educators who respond to the needs of the times will surely discover that a rich and bounding experience awaits them. Marilyn Ferguson states in **The Aquarian Conspiracy**, "Risk brings its own rewards: the exhilaration of breaking through, getting to the other side, the relief of a conflict healed, the clarity when paradox dissolves. Whoever teaches us is the agent of our liberation." Adult eductors need to help others to the other side of fear which is freedom. The educational efforts to assist adults in taking charge of their lives in this new age will bring discoveries to both teacher and learner.

A special tribute and word of appreciation is extended to the Addison Central School District. Judith Guild, Administrative Assistant has been especially supportive in numerous ways. Her energy, spirit of enthusiasm, contagious conviction and knowledge of computing have helped set in motion a kindergarten through adult computing program that is unequaled in any other part of New York State. It has been our privilege to work together to make things happen for adult learners that were once only held as remote possibilities.

ADDISON CENTRAL SCHOOL DISTRICT

Addison, New York

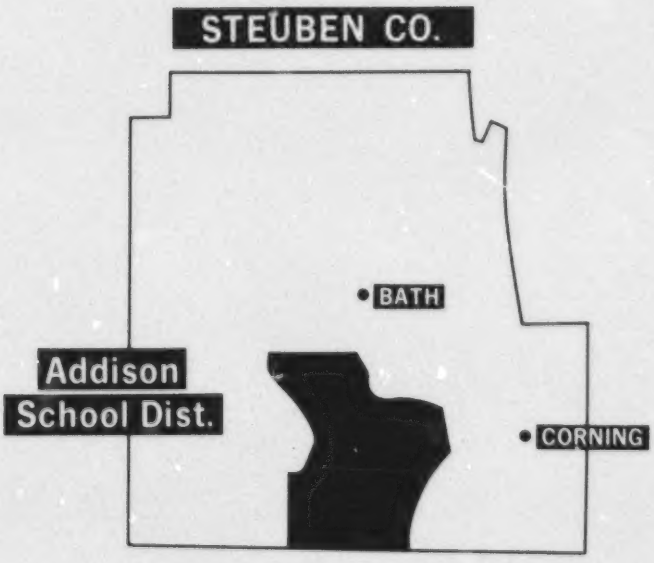


TABLE OF CONTENTS

I. INTRODUCTION AND ACKNOWLEDGEMENT . . . . . 1 - 4

II. PLANNING TO PLAN . . . . . 5 - 7

III. CONSIDERING THE ALTERNATIVES 8

IV. SETTING THE PROJECT IN MOTION . . . . . 9 - 11

V. COURSE OUTLINE -- INTRODUCTION TO COMPUTING . . . . . 12 - 15

VI. PARTICIPANTS'S EVALUATION . . . . . 16 - 22

VII. THE FUTURE . . . . . 23 - 30

VIII. OTHER CONSIDERATIONS OR AFTERTHOUGHTS . . . 31 - 36

APPENDIX

Attachment "A" - "The Source" . . . . . 37 - 39

Attachment "B" - Program Considerations . . . . . 40 - 43

Attachment "C" - How Can Adults in a Small Rural Community Be Introduced to Computers? . . . . . 44 - 46

Attachment "D" - Introduction to Computing 47

Attachment "E" - Course Evaluation 48

"60 APPLES -- UTILIZING ELECTRONIC TECHNOLOGY TO ENHANCE AND ENRICH ADULT LEARNING"

I. INTRODUCTION AND ACKNOWLEDGEMENT

This report is focused on an internship being conducted in Steuben County as part of a Ph.D. program with the Union Graduate School.

The magnitude, far-reaching implications, and potential of this project were at the outset grossly underestimated. Presently members of the Steuben County Cooperative Extension staff, Board of Directors representatives, and Program Committee members, along with the Addison Central School District staff and school board, combined with faculty and administrators from Cornell University, provide the major guidance for this effort. There have been a number of other people who have been influential in the design of this program. Some represent the State of New York Education Department, others made contributions through a computer network, "The Source." Interest and support for the program has continually expanded over the last six months. There is a continuing richness and competence being presented by those who are directly involved in this special project.

In a period of time covering less than six months, opportunities to study, plan, act, investigate, explore, and experiment have been almost endless. The array of potential programs, areas for investigation or education activi-

ties have not diminished and are unlikely to do so as the project receives more and more recongition and attention.

For the most part, there was a clear definition of what should be the ultimate goal of our collective efforts. The excitement, richness, and educational discoveries along the way were never really anticipated. It is fair to state that the implications of this program will have far-reaching effects on possible programs and research to be formulated in New York state and in other areas of the country.

Now that the first phase of experimentation is over, there is a need to develop a straight-forward, sensible long-range strategy for utilizing electronic technology available in the community. By linking technology to the educational resources of the land grant institution, Cooperative Extension and other educational agencies, adult education can be enhanced and enriched.

Each participant began the journey of program planning for this project with very little knowledge of what might be achieved other than an appreciation by adult learners for the state of the art of electronic technology. This is a new and emerging field. There are magnificent discoveries yet to be unearthed. There is no doubt electronic technology and communication systems will have tremendous implications for adult education in the very immediate future and the decade that lies ahead.

There are many people who contributed greatly to our knowledge, understanding, and appreciation for our successes and failures. Staff throughout Cornell University have been quick to respond to being participants in part of the training as well as the staff from Steuben County Cooperative Extension and the Addison School District staff. Most of all, appreciation should be shared with those adults and parents who willingly devoted their time to discover some of the grand and glorious opportunities available in the electronic age. Many of these adults will continue to be participants in programs that are being planned for the future; obviously other adults from the Addison Central School District will join their ranks and contribute immensely in the design of future activities. These can and will be implemented throughout the state and perhaps eventually nationwide.

Because of intensive efforts, hard work, and creative thinking, this project has fostered among several of us a mutual bond of lasting value. The historical prospective of the program, program content, conclusions and recommendations of the study report, are presented in the spirit of building upon an existing excellence in the Land Grant University (Cornell University) in the hopes of establishing even higher standards for the University at large in the future.

For all of us, it has been a stimulating, adventurous, and rewarding experience to be a participating contributor in this project. There is no doubt that adults will indeed find their learning experience enhanced and enriched through this significant effort.

REVIEWING AND SELECTING SOFTWARE

II. PLANNING TO PLAN

The quote, "some people wait for things to happen while others make things happen" is probably appropriate in the instance of making events unfold with the 60 APPLE PROJECT. Naturally, if a program is going to be conducted to enhance and enrich adult learning through the use of computers, there is a great need for equipment, facilities, and an opportunity to provide learning experiences.

After having made presentations to the Board of Directors of Steuben County Cooperative Extension, to obtain their support and approval, it was discovered that a member of the Home Economics Program Committee was also a member of the Addison Central School District school board. This member discussed with the director for computer activities at the Addison School our need for a laboratory. It is interesting to note that simultaneously the superintendent of schools was expressing a need for more parents and adults in the school district to become computer literate. The argument follows that these individuals when having an understanding for computer programs being conducted for the students would be more supportive. Of course, one of the other direct results of computer literacy training is an opportunity for adults to use these new skills themselves.

A meeting was arranged to discuss with the school com-

puter project director the possibility of utilizing 60 Apple computers for adult classes to provide parents with some of the basic computer skills. Our first session ended up with a divided camp -- two computer people wanting to teach computing, helping adults to become computer programmers as a way of becoming computer literate, while three program people saw at the same time an opportunity to teach adults a number of living skills by using the computer. The primary objective was to assist adults to become computer literate. That debate, while probably never being settled, really resolves itself as individuals take part in classes. As they progress, interest and curiosity naturally leads to learning basic programming.

After the meeting was concluded with the school district representatives, it seemed fitting to travel to Albany to meet with Dr. Norman K. Kurland, Executive Director, Adult Learning Service, New York State Education Department. That meeting turned out to be just the beginning of a turning point in an endless shower of ideas on how one might utilize 60 Apple computers in working with adults in a rural upstate New York community.

Before leaving the meeting with Norm Kurland, it was agreed we would put together a question that could be distributed on **THE SOURCE. THE SOURCE** is a computer system network run by **Readers' Digest** which has many features, one

of which is a continuing conference arrangement whereby anyone who is connected to **THE SOURCE** may make imput. The question raised was simply, **"How can adults in a small rural community be introduced to computers?"** The dialogue was almost endless. The network of people who had experience was extensive. There were comments from New York, and Colorado as well as other parts of the country. Suggestions for program content and examples of successes were shared abundantly. A sample of some of the responses is attached as **"A"**. These are presented as innovative programs and activities being conducted throughout the country. They also are for the readers' review because the content became a resource for planning the program that eventually was conducted in the Addison Central School District.

PREPARING FOR SESSION I

III. CONSIDERING THE ALTERNATIVES

Utilizing school district computers to enhance adult computer literacy provided a challenge to think through the possibilities and ramifications of such an educational program. There were a number of basic questions to be answered, objectives to be established, audiences and individuals to be involved, along with funding considerations. The major concern obviously focused on the kinds of programs that would be conducted in utilization of the computer. Basically, we outlined ideas to be reviewed by members of the Cooperative Extension staff and the Addison Central School District. This is attached as "B" (Program Considerations.)

The second stage in considering the alternatives was to look specifically at programs. There were five programs outlined as being a potential to be used with the school district. The discussion **"How Can Adults in a Small Rural Community Be Introduced to Computers?"** was presented to the major planners of the program and to other professionals who had an interest in this project. (See attachment "C".)

Only two of the five original ideas have been implemented to date. Many other possibilities have also been presented and proposed as the programs have been conducted and evaluated.

IV. SETTING THE PROJECT IN MOTION

Up to this time, there was an assumption that there would be adults who would be interested in participating in such a computer literary program. Having heard all the information about computerphobia, and the other information about parents and adults being scared of the imposing image of a computer, we marched off unknowingly into the future to find some recruits.

The first group to participate in the program was recruited from Steuben County Cooperative Extension program participants. This was a program on Personal and Desk-Top Computing, a short course in computer literacy that was designed by the staff at Cornell University. The materials focused on those who operate farms and have farm business applications for computers. Participants in the agricultural program in Steuben County were requested to express their interest. In no time at all, over 25 individuals had signed up to participate in this course.

To determine interest from the community at large, a questionnaire was designed and circulated at two spring concerts. Presentations were made prior to the concerts to explain the interest of Cornell University and Steuben County Cooperative Extension in this computer literacy program. Potential benefits for the participants were also outlined. The school district sent applications and informa-

tion in the school bulletins. In both the high school area and one of the elementary schools, there were more than adequate numbers to conduct a computer literacy project. A questionnaire, "Introduction to Computers" was used to invite participation for the introduction to computing course is attached as "D".

As a result of planning, course dates were established and program objections refined as follows.

Introduction to Computing Course Dates

May 16, 18, 20, 24: 7:30-9:30 p m., Addison High School.

June 6, 13, 20, 27; 7:15-9:15 p.m., Addison High School.

June 1, 8, 15, 22; 7:15-9:15 p.m., Valley Elementary School.

These programs will introduce parents to Extension information as well as giving them an opportunity to learn about student activities with computers. As a result, parents/adults become computer literate.

Program Objectives

- To utilize district computers to impart Extension program information to adults
- To increase adult knowledge and skills in subject matter areas identified as needs by the audience
- To demonstrate that the computer can be a personal development tool in the life of adults
- To assist adults/parents in appreciating and understanding the education their children receive in computer awareness, literacy, and utilization

To create networks of educational endeavors with Cornell Cooperative Extension, Addison Central School District, Steuben County Cooperative Extension, business, industry, government, and the community.

CHECKING OUT THE KEYBOARD

V. COURSE OUTLINE -- INTRODUCTION TO COMPUTING

Four sessions were held with four groups ranging in size from 10 to 25. Each session was planned to present a core of information. In addition, several alternative programs were made available to meet the need of the adventurous and the fast learners in the class. The majority of the participants found the course challenging.

Session I - Introduction and Overview

A. A history of computing.

B. Terminology.

C. Introduction to computing concepts and languages.

D. Getting to know your Apple.

The majority of individuals participating in the class had no knowledge of computers. With the exception of 2 out of 60 participants, this was a first-time experience utilizing computers. A series of slides was used to help individuals understand the history of computing, the basics of computers, and to become familiar with computer terminology, operations, and programming. The remaining part of the first session was devoted to the use of the software **"Introduction to the Apple."** This activity set the stage for the second session.

Session II - Subject Matter Exercises

At the second session, there was time to review information provided in session one. A number of individuals did arrive early and utilized that time to use the **"Introduction to Apple"** and other software to become more familiar with the computer. The second session focused mainly on a nutrition project which was developed by the Pillsbury Company entitled **"Eat Smart."** There was also an opportunity to use a software program adapted at Cornell University called **"Project Lean."** Individuals were asked to fill out a questionnaire and then use the information for the computer program. The objective of this lesson was really two fold. Individuals enhanced their computing skills as well as increased their understanding of nutritional information. A number of individuals ran this software in the remaining two sessions and utilized the nutritional information to their advantage.

Session III - Word Processing

In the third session, individuals were introduced to **"Bank Street Writer."** This is the software program that has been used for word processing in the Addison School District. A number of fifth graders are using this extensively in their writing assignments and have

become extremely proficient in their word processing skills.

One of the major drawbacks in using word processing with the group of adults was their lack of skill in key stroking. Most individuals had to hunt and peck at great lengths to discover the appropriate keys. To develop a paragraph or sentence, and then begin to manipulate that information, was an extremely long, tedious procedure for over half of the group.

In the third session, there was also the introduction to "Logo." This is a program being used with third graders in the Addison School District and many parents and adults had an opportunity to learn first hand how Logo was being used in the classroom.

Session IV - Programming and Evaluation

The fourth session was devoted to writing a basic program. Those who were quite proficient in completing the exercise were asked to team up with someone who was having difficulty. It was quite rewarding to see how far participants had progressed in four sessions. Only a few individuals were unable to complete the exercise in the basic programming.

Several other computer software programs were available for the adults to use. These included "Visi-

Calc." Parents also utilized some of the materials that were developed for a 4-H project. These enhanced their skills in the use of the computer and at the same time, increased their knowledge in a subject matter area. Some of these programs related to consumer decision making, financial planning, and management. Throughout the session, many individuals raised the question of what are the considerations in purchasing a computer. This information was provided and included as a part of each session.

SUPRISE! IT WORKS

VI. PARTICIPANTS' EVALUATION

There were some interesting results from the evaluation of the program.

The following are selected responses from a sampling of the participants' evaluation questionnaire. For the majority, the reaction to the program was high. In fact, on a scale of 1 to 5, 4.5 was the average. The majority of participants answered "Yes" to the following questions:

"Did the course provide you with a basic understanding of desktop computing to the point that you feel confident enough to independently use a computer at home and in your work?"

"Do you believe that you are better qualified to select a desktop computer system for your home or work?"

"Was the technical content of the course offered at a level you could follow?"

Only one person answered "Yes" to the question,

"Do you currently anticipate a purchase of a desktop or personal computer within the coming year?"

The responses to the question,

"What part of the course did you enjoy the most?", the answers came in the following order:

Programming, word processing, Eat Smart, the electronic spread sheet exercise.

The response to the question,

"What part of the course was most difficult to comprehend?",

individuals said: **programming, language, terminology.**

When the participants were quizzed as to what would they like to do to follow up, the following order of answers was provided. **Programming, graphics, business uses, and financial management.**

Everyone who participated in the course would recommend it to their friends, most would take advantage of an opportunity to practice without formal instruction or lectures, and 4 out of 10 of the group at one of the high school sessions indicated they knew enough about basic computing that they would assist others in the introduction to computing class. See evaluation form attached as **"E"**.

Instructors' Observations

Everyone could benefit from a course in typing. This appeared to be the greatest barrier for most of the participants. It is obviously essential, at least at the present time, to have sufficient typing skills to make computing less frustrating, easier, faster, and more rewarding. Perhaps this is one of the places to begin by providing an introduction to computing using a software program on key stroking. There are a number of software packages presently available that do an excellent job in graphically teaching

one how to type. Most have a workbook that accompanies the typing lessons, and a number have a cassette tape that can also be utilized. There is no question that adults who want to use word processing need to have basic typing skills or at least need to enhance their ability to hunt and peck at greater speed.

Much is written about computerphobia and the fear of computors by parents and adults. Throughout the sessions, the instructors did not observe that anyone suffered from computerphobia. Of course, everyone who participated was a willing subject! There were two or three people who started out in the program and did not complete the sessions. These individuals were not contacted to determine the reasons why they dropped out. In many instances, it may have been because of conflicts in schedules and other kinds of work responsibilities. Perhaps the fact that there was so little evidence of computerphobia, or fear of computers, could be attributed to the environment in which the adults learned. In no instance was anyone forced to do anything; there were general instructions and then encouragement on a one-to-one basis. The classes were kept small, and individuals were encouraged to try out new things. When there were failures, everyone could laugh about these and begin anew in their efforts to understand this marvelous electronic machine.

There were frustrations however. This was particularly true the night the group worked on programming in basic.

They found there were more syntax errors than they ever imagined, and some had to go back and rewrite their program from the start. The point was made that computing is an exacting science or it could be an art.

There is no question that software that works, is user friendly, and is valuable as a teaching, learning tool, is in short supply. Creating software is an expensive time-consuming process and there is a great deal of misconception about writing programs. As computers and software become more user friendly or menu driven, adults will have a much easier time in using the computer to accomplish some of the tasks that they see as essential.

When the program is run again, the same format will be followed with the four basic types of informtion at the four different sessions. It is essential to begin with a common understanding about computing, a little bit about the history, and then introduce adults to the computer by doing some fun things.

Because there were only 10 computers available at a time, the groups worked in teams. This was very helpful in providing support and encouragement. Perhaps in future sessions, there needs to be more consideration to teaming up someone who knows something about computers along with someone who is extremely deficient in the knowledge of the machines. In any case, after the first two sessions, it is quite easy to match people up or to ask someone to be

of assistance to another individual who appears to be struggling.

In future sessions, a wider variety of software must be available, especially in the areas that are of the greatest interest to adults. Presently there is not an abundant supply of programs that deals with financial management. There was a host of individuals who would have found this interesting and informative. Also, since most every adult does something with income tax, an income tax package would have stimulated their interest and enhanced their skills in computing. For the most part, these adults, being new to learning about computers, would have accepted almost any computer program. They did have fun in listening and learning with what was provided. In any followup with this group, obviously their needs are going to be greater and more sophisicated, therefore more time must be dedicated to the selection of software and training materials.

Dedicated Learners

One of the most confirming aspects of the sessions was the rediscovery that adults are dedicated learners. The participants arrived early and left late. Some nights the lights had to be turned off along with the computers before individuals would give up. One must also take into consideration that the individuals who participated in these sessions were not those who commonly and routinely enroll in continu-

ing education activities. These were not for the most part adult learners who sign up each semester at the community college or do something else for self improvement. The participants enrolled in the course basically for two reasons. A number of them had children participating in the school computer program and they wanted to know more about what was happening in the classroom. Secondly, quite a few of the individuals involved were looking at the possibility of using the computer in their buainess or in their work. A few identified knowledge of computing with the possibility of their own career enhancement.

The Cost/Benefits of the Program

The sessions held with the Addison Central School District were at no cost to the participants. The only cost necessary for the entire training project was the investment of time made by the instructors. Most software was made available at no charge. The use of the 60 Apples was a major contribution made graciously by the school district. It is always interesting to calculate the value of a program of this nature. If the adults who took part in these training sessions had to pay for the courses on the open market, the cost would have exceeded $10,000 collectively. This figure is based on tuition being charged in the surrounding communities for similar programs.

There is another intangible benefit of this effort that must not be overlooked. The majority of the 60 adults who signed up for the program probably would not have had an opportunity to become computer literate in any other way. If they did become involved in like efforts, it would be in the distant future.

All agencies who networked their resources and collaborated on this project were also the ultimate beneficiaries. The school district helped community residents to understand more comprehensively the computer curriculum for the student. Cooperative Extension was seen in a different light and at the same time adults were introduced to a new source of subject matter information. Faculty at Cornell had a first-hand reaction to new computer programs. Faculty could also determine needs for additional software development. The training programs provided a basis for observation on how adults respond to the potential inherent in the utilization of electronic technology to enhance and enrich learning.

VII. THE FUTURE

The 60 Apple project should be viewed as a beginning from which future programs should be planned. There is a need to continue to conduct more programs with agri-business and the agricultural community. The potential is almost unlimited for providing basic introductory courses followed by more in-depth specialized efforts with adults within the school district.

With almost 1,600 students in the school system, there is an on-going need to provide instruction for parents and/or adults. This will provide a laboratory to continue to refine the four-session curriculum. Perhaps the utilization of video tape or other methods to facilitate self-instruction would extend the program much further without the need for intensive professional resources. Individuals who have been through the course could easily become facilitators and teachers in the future literacy training projects. Again this would greatly expand the number of programs offered and adults involved.

An interesting note was a response to a question posed to one group of participants at the Addison high school. This group was asked if they would like to continue their participation in computer literacy by spending a weekend at Cornell University. The proposal was to have 15 or 20 adults and/or high school students arrive at Cornell on a

Friday evening and take the opportunity to view some of the computers and computing activities on campus. The group would then have hands-on experience with some of the computers that are directly linked to the mainframe. They would have exercises in word processing and other activities as appropriate. On Saturday morning, they would continue their learning with the Cornell computers and discover more about microcomputing, networking, and electronic mail. The majority of the class, when asked if they wanted to participate, raised both their hands as their indication of high interest.

Parents and Preschoolers

There is an interest among parents in the elementary schools to participate with preschoolers where parents and preschoolers would learn to use the computer as peers. In this instance, the computer would be one activity area among several in a preschool setting. Trained teachers or facilitators would be available to help the preschooler and the parent to learn to use the computer. There also would be arrangements made for parents and preschoolers to take a computer to their home to use for a week or ten days. Again, there would be some instruction and evaluation of how this might be utilized. This whole area of use of computers in education with preschoolers is a topic of hot debate throughout the nation. There are a

number of programs that are extremely successful. There are just as many individuals who feel that this is not an appropriate activity. One of those individuals is Dr. Joseph Weizenbaum of MIT who has concerns about the use of computers with young students. He states,

> "Children may be conditioned by computers to think all problems can or should be reduced to computer terms. In a sense, computers have the potential to skew how children view reality since most problems in the real world defy such simple definition."

On the other side of the argument is Robert Newton Barger of Eastern Illinois University. He states,

> "Plato once said that a slave is one who carries out another's purposes. Jefferson more recently stated that a basically educated citizenry is necessary to safeguard that citizenry's freedom. If a technical elite is not to gain tyranny over the common person--computer literacy will be essential as to human autonomy in the future as a knowledge of reading and writing has been in the past.
>
> "Also, the meaning of what it is to know has changed in this era of the information explosion. What you knew previously meant what you had in your head. Now what you know is what you are able to access again and ignorance of the computer and its use may soon mean the sacrifice of human autonomy.
>
> "If the computer fits in so well with human traits then why are some teachers wary of it? Two basic reasons seem to answer this question.
>
> "First, some teachers are unaware of the humanizing possibilities of the computer. They may fail. They may be familiar with the short comings of the educational machines of the past and may feel that the computer is just one more of these machines.
>
> "Secondly, some teachers have themselves been highly successful under the traditional instructional system and hence tend to react to what they suspect might make for radical changes in the system. The computer may indeed make for some radical changes but if

> these changes could result in more effective learning and more humanized education then the computer should not be feared."

The debate goes on. There is a humanizing side which states that the computer encourages creativity; it is interactive and it allows human beings to become collaborative in solving problems and seeking information in a noncompetitive way. What better time is there for individuals to learn about computers and computing that at the preschool level? This is one of the priority areas that will continually be explored and conducted in the Addison Central School District program.

Basic Research

The computer environment that has been fostered in the Addison Central School District makes an interesting and almost ideal laboratory for research. A faculty member and graduate assistant from Cornell University's Human Development and Family Studies Department are beginning to conduct basic research in cooperation with the Addison Central School District. They will begin by initial testing and critical evaluation of different types of software and the various conditions under which these may effect learning. They have determined that in terms of any ultimate success or failure in the computer education revolution that some evaluation of this nature is essential.

There is also a need to gather usable data about stu-

dents' use of computers and its effect over a period of time. This information will be collected under carefully controlled conditions and collection will be done as unobtrusively as possible to minimize the whole set of confounding variables that might be inherent in the environment. There will be the establishment of a software library and a catalogue of software available. From the software library, students will be able to select programs after they have had an opportunity to understand the range and types of computer software available. Based upon this information, the researchers will be able to determine how often each program is used along with the continued growth in learning by each student.

Of particular interest in this investigation is adult involvement with computers and computing. Adults will be continually introduced to computing by taking part in computer literacy courses. There will be further investigation to discover what influence adults have upon students if they have greater knowledge about computers and computing. What kinds of conversations take place at home, is support generated by parents because of an understanding and appreciation for this new electronic technology, and what effect does this have on student performance.

This program is only at the beginning stages and is seen as having the potential of collaboration with many other universities throughout the United States. It is, of

course, a forerunner to looking at some of the effects of computers in a rural school district over an extended period of time.

Cooperative Extension Programming

There are numerous program areas specific to Cooperative Extension that can be used in future programs. The initial effort utilizing nutritional materials should be expanded further. As has already been pointed out, software for financial management programs should be reviewed or created. There are a few programs that deal with consumer decision making; one example is the decision to rent or buy a home. In most cases these are on a mainframe computer and need to be adapted for the micro. When these software programs are available, they will be another asset for training. It is evident that when real life situations are employed in training, greater interest and learning takes place.

Involvement of local government officials in computer literacy training has unlimited potential for Cooperative Extension. Software is now available to help funding bodies determine priorities for human service programs. Government officials are also being asked to interpret greater amounts of data to adequately carry out their duties. The computer can be a boon in this instance.

Energy decisions are always a high priority for con-

sumers. Programs that are run on the computer allow individuals to make better decisions by examing alternatives. A very unsophicated software program was used in the first sessions of the computer literacy training. This area needs more attention and resources.

Some extremely interesting graphic programs are appearing in the areas of water quality assessment. This will provide another audience for Cooperative Extension to work with, interpreting data and assisting in computer literacy training.

This report has given little attention to the major efforts being planned and implemented in the 4-H program. Many adults are providing leadership for 4-H clubs in computing. The training programs with these adults, while being specific in nature, can be seen in the same framework as those conducted in Addison. Potential leadership can be identified and recruited through adult computer literacy training programs.

Promotion, Publicity, Expansion

There will never be a more favorable time to develop publicity about this program. Articles, reports, and video tapes will be developed in cooperation with the school district. With over 3,000 county Cooperative Extension offices throughout the country, the potential for additional efforts of this nature is almost mind staggering.

A video tape to describe this pilot endeavor will be developed in the near future. While this video program will be of considerable value to all partners in this pilot effort, it will of greatest value to school officials. The stream of visitors to the school to learn about the computer curriculum increases on a weekly basis. A video tape might help reduce the flow of traffic.

A few attempts have been made to let others know about enhancing and enriching adult learning through the utilization of electronic technology. Mainly, articiles in the **"New York State Rural Schools Program Newsletter"** and in Cooperative Extension publications have let a limited group know of its existence and potential. Now a high priority will be placed on helping others to explore and examine the local potential for collaborting to assist adults to learn more about electronic technology. Ingenuity, creativity, and dedicated effort can overcome many of the obstacles and barriers adult educators see as preventing their efforts to assist adults to become computer literate.

VIII. OTHER CONSIDERATIONS OR AFTERTHOUGHTS

The students of today deal with the informational world that computers and electronic techology have made as a matter of course. The student of today has developed skills, values, understanding, and appreciation for the notion of the electronic age.

But what about the adults of today who are not in the mainstream of participation in learning computer skills nor are they having the opportunity to build themselves a world that includes the marvels of electronic technology.

Will there be social costs of computer literacy or the lack of computer literacy? Most high schools or colleges of today say that a student who graduates without being exposed to computing has an incomplete education. How then are adults going to catch up when the majority of computers are used in the business world or the school systems. It is also evident that the work world of tomorrow will be utilizing computers in greater and greater numbers. What then will be the opportunity for adults looking for jobs to enhance their skills in computer literacy? For the first time in the history of mankind, technology has presented a gift that is in the latest in a series of electronic developments that will continually prod us to thoroughly rethink the ways we work, play, and are educated. The microcomputer has the potential of being the most innovative teaching-

learning tool since the development of the book. Books, television, and radio give large numbers of people access to information broadcast from a central source, but the computer makes it possible to process information in an environment that encourages and permits interaction and collaboration.

In the introduction of technologies, there always has been an equity gap. The equity gap that will be evidenced in the near future by the introduction of the computer and other electronic technologies will probably be the greatest ever observed. Access to information and interpretation of that information will be the key to economic and social survival for many adults. Those in society who are unable to access information will be at a greater disadvantage than those who have learned to use the technologies of the day.

There is then a crucial need to begin to utilize the educational potential within a community to develop networks and collaborate in planning programs for adults. Electronic technology not only needs to be used in the teaching of adults who are first motivated to participate in such activities, but should become a common occurrence with everyone who is interested in enhancing their education.

Emerging Educational Trends

The new technologies will mean that education will

no longer be the purview of the school systems, it will be lifted out into the open educational environment and be inserted in knowledge networks. A personal type of education is being continually fashioned and introduced. Self-learning will become the leading form of education. Teachers will act as advisors, facilitators, counselors, and become leveraging agents in the educational process. Knowledge-creative education will replace memorizing lists of information, figures, and facts. Lifetime education will become necessary to enable adults and elderly to adapt themselves to the changes in an informative society. These implications have profound effects upon adult education and the means and methods of helping adults to continue in their search for knowledge, growth, and understanding.

For those who still harbor doubts about the growth in computing and communications, there are some statistics which should make people have second thoughts.

The number of computers increased from 0 to 10,000 between 1946 and 1960 and then from 10,000 to 10 million between 1960 and 1980. With the advent of smaller, smarter, and less expensive personal computers, the growth in sales is predicted at a 50 percent annual rate through 1985. In 1982, 2.8 million units were shipped while the 1983 sales are predicted to reach almost 6 million. By 1985, 10.5 million will be sold each year.

It has been stated that the educational systems as

we know them today will not exist ten years from now. Education which up until now has been the province of the public controlled educational systems will become the main business of corporations, industry, and educational electronic networks in this nation and around the world.

No Time for Caution

For those who choose to play it safe or to be cautious in entering this new electronic era, the potential penalty will be overwhelming. There will be no catching up. If adult education is to maintain its educational primacy and survive in the changing world of the future, the collective attention to high technology as a wave of the future must receive high priority. The challenge facing each adult educator is to lead courageously toward an unknown and uncharted future. This is the only way that any of us will be allowed to participate in the world that lies ahead. The project "60 APPLES", the utilization of electronic technology to enhance and enrich adult learning, is only one effort in adult education to help point the way for participating in the world of the future.

Becoming Visionary

What is required today is a vision of the future that is almost beyond our comprehension. New educational structures are desperately needed to help us all to be freed

from the past. The answer to the problems society faces in all of education, adult included, lies with out collective ability to embrace change and to enhance our lives through the use of new learning tools. There is a basic inherent problem that surrounds all change and the electronic revolution is not exempt. Michael Crichton writes in his latest book Electronic Life -- How to Think about Computers,

> "The computer is a new machine. It requires new skills, new orientation, new ideas. It's changing our lives. Nobody in his right mind likes that.
>
> "Although we've all been fed a lot of psychological pap that says learning is fun and challenges are exciting, human beings are inherently conservative. Change means stress. Change makes us uncomfortable and fearful...There's a fundamental truth here: human beings don't like change."

An obvious dichotomy exists. Computers, coupled with other technologies, can and will increase our thinking and mental powers beyond what we dare to imagine. The computer is a very powerful personal development tool. How then, if adults are leery of change, is the transition going to take place?

Adult educators need to think seriously about the adult learner of today. Who are the adults they will be teaching ten years from now and how will they differ? Will their steady diet of technology over the years make any difference? How will adult educators deal with a student body that accepts the fact that the computer, telephone, and satellite are the window to the world?

The Role of the Adult Educator

The role of education will be drastically different in the next decade. It follows that the role of educators ought to change just as drastically and rapidly.

The teacher, instead of a controller must become a leverage agent, enabler, facilitator, animator and most of all a skillful learner. The transformation will be so great that some educators will never make the leap. The self directed learner armed with new electronic tools, newly discovered and refined skills and a willing world networked electronically, will then find in education new dimensions of grandeur. These discoveries will unfortunately be made outside of the present educational system and without the majority of present educators.

There is much to be done! Change requires hard work, innovation, creativity, risk, and courage. This is an exciting time to be a part of change. It is time to position oneself at the curl of the rising wave in order to be propelled into the future by its majesty and power. Those who have been involved in the **"60 Apples"** project feel that we have done just that. Our challenge now is to scurry out to the approaching wave and repeat the process until all possibilities of enhancing and enriching adult learning through electronic technology have been exhausted.

LEARNING ABOUT THE APPLE

APPENDIX

"THE SOURCE"

Responses from an Inquiry and Replies

....

"COMMUNITY USES" Conference 83.2491 NYS EDUCATION DEPARTMENT, about **"HOW CAN ADULTS IN A SMALL RURAL TOWN BE INTRODUCED TO COMPUTERS?"** (answers: 10) FRI, 03/04 21:34 (316 characters).

Answer 1 (of 10) NYS EDUCATION DEPARTMENT, on FRI, MAR 04 1983 at 21:44 (490 characters).

To explain a little more: The computers can be used any time that the schools are not in session and can be placed in other places in the community besides the schools.

One suggestion made was that the people who raised the question should get on **PARTI** and join this conference. They should be on soon under the name of **DIK**. What can we have waiting for them?

I did refer them to **SOURCEVOID** who has been doing something like this in rural Colorado. Norman.

Answer 2 (10 10) TERRY, on FRI, MAR 04 1983 at 22:09 (776 characters).

THE PARENTS ARE MOSTLY SCARED OF THE IMPOSING IMAGE OF "C O M P U T E R": A MULTIMILLION DOLLAR MACHINE REQUIRING A TEN YEAR COLLEGE DEGREE AND AN IQ OF AT LEAST 210 TO USE.

I'VE HAD GOOD LUCK GETTING ADULTS USED TO FRIENDLY MENU DRIVEN PROGRAMS, AND PROGRAMS REQUIRING SIMPLE ANSWERS TO WELL DEFINED QUESTIONS.

AS LONG AS THEY CAN'T RECEIVE AN UNEXPLAINED ERROR MESSAGE LIKE "ACCESS VIOLATION RAISED AT 4004 (13)" OR GET LEAD INTO UNRECOVERABLE SITUATIONS THEY USUALLY PICK UP QUICKLY .... THE CHILDREN ARE ALSO A HELP IF THEY CAN CONTROL THEIR TEMPERS.

GAMES SUCH ADVENTURE, AND FRIENDLY DATABASES SUCH AS ONLINE WORLDBOOK ON COMPUSERVE WORK WELL.

....

Answer 4 (of 10) FRI HAL (-TCD139-), on SUN, 05 1983 at 00:19 (180 characters)

I LIVE IN UPSTATE NEW YORK .... 60 APPLES IN A SCHOOL'S COMMUNITY IS *** NOT *** A 'SMALL' COMMUNITY. PERHAPS YOU'D CARE TO RE-DEFINE YOUR PARAMETERS ....

FR. HAL TCD 139

Answer 5 (of 10) SOURCEVOID, on SAT, MAR 05 1083 at 01:01 (2586 characters)

I haven't heard from DIK or anyone else yet but I can report the greatest success (one drop out in 34 rural adults) in introducing a town of 450 to micros (in this case Radio Shack Model IIIs) in word processing, electronic spread sheets, data base management, and telecommunications.

But also Louis (here on PARTI) and I have designed a parallel course for Apples in a Community College for the same type of folk which is so popular there are 42 on the waiting list, compelling the school to buy 12 Osbornes to outreach even more.

The common thread is taking entirely a hands-on non-programming APPLICATIONS approach, starting with an "Electronic English" approach to wordprocessing (rather than teaching 'everything you ever wanted to know about a word processer but will never use -- to get them to writing, saving and printing IMMEDIATELY) and then into a practical approach to spread sheets in which they bring in their real world budget problems or calculations such as tracking the milk cow production by VISICALC and getting that on the line and never even showing them 50% of the advanced math features and then only DEMONSTRATING a DB manager with some real-world small town list problems (...all the girls in the 8th grade which ride the Rural Route 2 Bus) and demonstrating and cross-room Rs232-Rs232 communicating with telecommunications culminating in a cake and cookie and bring your old man 'graduation' from the 'kindergarten of the Information Age' while demonstrating downloading such things as LOGO routines from Texnet in hi-res color graphics with a $150 TI-99/4A and playing Bruce Springteen over Orch-80 in stereo (TRS-80) by conspicuously downloading in Hex code and running (having a student do it all with gentle prompting) and then finishing up with a 20 question multiple choice exam entirely administered on a micro and then printing out their own graduation certificate on an EPSON.

....

Well, this approach works well enough that the school supt (all 288 students worth) now downloads state legislative bills from Denver into his office, the elementary school

is using electronic dictionaries and GRAMMATIK, the food locker family is using VISICALC TEMPLATES, a Middle School is putting up 3d generation BBS software, ranchers and their wives are buying micros and getting on AGRICULTURAL NETS, and not a damn one of them have yet seen a line of BASIC!

From the PARTI SPOKESMAN for APPROPRIATE COMPUTER LITERACY

THE SOURCEVOID

Answer 6 (of 10) LOUIS, on SAT, MAR 05 1983 at 22:43 (1154 characters)

Make that 160 on the waiting list, Dave. The response to this community college intro to micro applications course has been so strong that the school is in process of setting up a near-factory to introduce folks to computers. At least 1/3 of the people in my class are retirees, others are business professionals and both employed and unemployed office workers. As Dave mentioned, no programming is taught. And I've SAID damn little about anything. The approach is that the computer is what it does. So far everyone (22 people, 12 computers) is doing fine: they all edited and printed clean self-description paragraphs with the **"Magic Window"** word processor their first time out. The trick is to present things in the simplest practical terms, which most computer documentation utterly fails to do. Not "see how many things this word processor can do," but "what's the most direct route to a printed paragraph." My impression so far is that this thing about kids understanding computers and their elders not understanding them is bunk. Some of the older people in my class are astonishingly open to it and fast on the uptake.

Answer 8 (1 of 10) NYS EDUCATION DEPARTMENT, on SUN, MAR 06 1983 at 11:58 (334 characters)

Thanks to all you who have responded so far. This will be a great welcome for DIK. They should be on soon.

PROGRAM CONSIDERATIONS

The following comments, suggestions, and ideas are meant to be utilized to stimulate other potential program opportunities in utilizing computers with adults. Based on discussions with an ever-expanding number of professional and potential program participants, there is an endless array of uses of computers as a teaching tool.

I. Objective

To utilize school district computers to impart Extension program information to adults. In the process of so doing adults will become computer literate and be exposed to the numerous uses of electronic technology to enrich and enhance their learning.

To demonstrate that the computer can be a personal development tool in the life of adults.

To assist adults/parents in appreciating and understanding the education their children receive in computer awareness, literacy, and utilization. Create networks of educational endeavors with the local school district.

II. Equipment

How accessible will it be?

What kind of supervision is needed?

Can the equipment be portable?

What is equipment located, in what schools, how many pieces, models?

Can equipment be linked, should it be?

Maintenance

III. Audiences

Parents	Homemakers
Senior Citizens	Unemployed
Low Income	Disadvantaged/Disabled
Farm Business	Low Literacy
Teens - 4-H Clubs	

Attachment "B"

IV. **Programs**

Does it matter that adults don't become computer wizards?

Increase knowledge for enriching living skills through:

Nutrition	Home Gardening
Energy	Food Preservation
Budgeting	Academic Skills, Reading, Writing, Math
Farm Management	Local Government Leadership Training

V. **Faculty Involvement**

Who, where, when, how often: Faculty will assist in developing software, reviewing software and providing on-site training and evaluation.

Suggested faculty:

Donald Tobias, Human Service Studies
Richard Koelsch, Agricultural Engineering
Wayne Knoblauch, Agricultural Economics
Bruce John, Agricultural Engineering
Josephine Swanson, Consumer Economics
Muriel Brink, Nutritional Sciences

Ardyth Gillespie, Nutritional Sciences
William Deming, Education-Rural Schools
Jennifer Birckmayer, Human Development
David Deshler, Human Service Studies
Donald Schwartz, Communication Arts
Paul Yarbrough, Communication Arts

VI. **Steuben County Cooperative Extension Staff Involvement**

Katherine W. Giacomi, Agent Home Economics
Joanne B. Patnode, Agent Agriculture
Karen L. Sauve, Agent 4-H

VII. **Extension Administration Staff Involvement**

Suzanne M. Broderick, Computer Systems Analyst
David W. Dik, Assistant Director
Bruce L. Brower, Extension Computer Specialist

VIII. **Steuben County Cooperative Extension Program Committee Involvement**

Earl Titus, Agriculture Committee
Bernestine Wallaver, Home Economics Committee

IX. **Addison Central School Board Involvement**

Tom Lyone

X. **Steuben County Board of Supervisors Involvement**

John Helgerson

XI. **Funding**

How much? How long? For What?

Student coordination
Computer equipment
Software
Telephone
Travel
Supplies

XII. **Potential Sources of Support**

4-H Foundation
Gannett
Corning Glass
Remmington
Farm Foundation
Apple Community Affairs Foundation
Rural School Program
Local Sources - Service Clubs

XIII. **Other Agency Involvement**

Corning Community College
BOCES
Local Government
Industry
Unions
State Education Department:
- Adult Learning Services
- Center for Learning Technologies
- Rural School Program - Cornell University

XIV. **Where and How Should the Program Start?**

Bring 5-10 adults together to utilize Apple Computers, one-hour sessions with Headstart, EFNEP.

Subjects -- Nutrition, Snacks, Budgeting

XV. **Relationships with Respective Boards**

Involvement of School Board

Involvement of Extension Board

Involvement of Cornell Administration and Faculty

Involvement of Legislators

XVI. **What about Summer Activities, Teen Involvement, Other School Districts?**

XVII. **Additional Comments and Suggestions**

HOW CAN ADULTS IN A SMALL RURAL COMMUNITY BE INTRODUCED TO COMPUTERS?

Introducing adults, or more specifically parents, to computers through the efforts of Cooperative Extension and a small rural school district, has intiated a number of suggestions all of which seem worthy of consideration.

There is a basic premise that knowledge will be the precious resource of this country in the future and that adults as well as students in today's school need to learn to access information in order to improve or to at least maintain their present standard of living. There are those who would utilize the computer to train individuals to become proficient in programming and aware of some of the numerous tasks that the computer might perform. The number who may go on to use this skill will be continuously limited. There are others who see the computer as a tool through which one can extend knowledge and help individuals to focus on particular program areas through which solutions could be sought for identified problems.

The following are suggested ways to work with the school system and the community to utilize Apple computers for the enhancement and enrichment of adult learning.

1. Conduct an Apple Party - One of the major concerns in working with adults is to overcome their resistance to change or in this case, new technology. Cooperative Extension already has a number of computer programs that would lend themselves to Apple parties. An Apple party would be conducted in this case by an extension agent or a nutrition aide or other community volunteers who are trained to help facilitate the learning process for adults. For example, several homemakers who are participating in the expanded food and nutrition program in Cooperative Extension could be gathered together in a home, in a community center, or at the school. Through the use of the software, Project LEAN, those participants in that Apple party would have an opportunity to learn how to use the computer. They could input their 24-hour recall of their food intake and in a matter of seconds have a printout both on the screen and in hard copy on how that diet would measure up with a recommended balanced daily allowance. An Apple party could be used for those who are in need of credit counseling, budgeting; would lend itself to groups who would be interested in looking at some of the alternatives of energy, home improvement, and the list could go on and on.

   There are several educational principles brought into play in such an activity. First of all there is group support in which everyone would be participating and learning about the computer as well as some specific knowledge that could be applied immediately and readily in their lives. Secondly, there may be individual adults in the group who have a need for some remedial education in reading, writing, and other basic skills. These also could be enhanced by the use of the computer. And of course, finally, individuals could then become aware of other alternatives that would lend themselves either to a private learning or in group settings.

2. 4-H Computer Clubs - It has been long recognized that those who are readily participating in the electronic revolution are individuals in their younger years. Teenagers are often more helpful in teaching adults than many other teachers. Cooperative Extension is moving toward the formation of computer clubs. It would seem that teenagers could be helpful in working with parents to introduce them to computers. Cooperative Extension, the school system, or other agencies could provide software whereby teenagers in small groups could work with parents and help them to see the magnitude and the potential of using electronic technology. 4-H computer clubs would have the backup of Cooperative Extension agents and a steady flow of software created at the college. This would be an interesting experience to see how adults respond to such opportunities.

3. The Creation of Study Circles - The New York State Education Department Office of Adult Learning Services has been promoting the use of study circles as a means to have adults participate in informal adult learning. The concept of study circles is widely used in Scandinavian countries and has been more recently imported to the United States. In order to participate in such an activity, individual faculty members at Cornell University would be trained and in turn would work with students or community volunteers to help them to become study circle facilitators. At the university there is a field study project which is constantly looking for opportunities for students to participate in local community activities. In order to develop study circles, four or five adults in a community or many more would be recruited and assigned a facilitator. The activities that they would participate in would be determined by the group. Obviously there would be computer or other electronic technology involved and the group would meet together for several weeks exploring first the use of the computer, then exploring some of the areas of interest that each had. The facilitator of a study circle does not necessarily have to be competent in subject matter or as a matter of fact in the use of a computer. It is the responsibility of the facilitator to seek out those in the community who could lend their expertise with the adults involved. Again, the range of subjects to be explored are almost unlimited. There is also an opportunity to involve a broad range of interested citizens and/or students. The University of Rochester has already embarked on a study circle project and Bill Ceri, in Elmira, has a community program going of this nature.

4. Personal and Desk Top Computing -- A Short Course in Computer Literacy - Presently, Cooperative Extension agents throughut the state are being trained through a program on personal and desk top computing. There are manuals prepared that focus on an introduction to computers, the systems and its parts, some of the models that are available, and a familiarization with some of the descriptions and definitions related to computing. At the end of the first section there is an opportunity for a laboratory exercise.

The second lesson deals with spread sheet programs and program operations. The materials prepared are focused on those who operate farms and therefore most of the present examples are related to farm business applications. The final lesson deals with communications and time sharing. This would be an opportunity to help individuals to look at other information that is available to them through nationwide networks.

To implement a program such as this, Cooperative Extension agents in the county would be trained and then would work directly with a group of farm business operators who are interested in learning more about the potential of computers and their use for management and planning. Again in this instance there would be backup support from university faculty and continuous review and development of comuter software. Granted that this approach would be to a limited audience but would have an adaptability to others who are involved in small business or just have an interest in learning about computing for their home finances or other activities.

5. **Remedial Reading** - Through the use of literacy volunteers, a number of adults have learned to increase their skills in reading. The use of the computer in such an activity could expand volunteer contributions and at the same time provide an application of computer assisted instruction. The adult participating in such a program could then learn at a time convenient rather than always being dependent upon a volunteer. There are other remedial activities that could be prepared and conducted through any of the configurations that have already been described.

There are other opportunities within a community to rely upon volunteer assistance. RSVP programs or local volunteer action agencies could identify individuals who have or would be interested in participating in programs such as this. Local industry or business would have a stake in such programs. They may in fact serve as a training and facilitating focal point for these computer literacy activities. The Rural School Program at Cornell University has expressed an interest in being a participant in developing and supporting a computer literacy program for adults in rural communities. This would serve as a model for other school districts throughout the state and the nation. The New York State Education Department Learning Services will continually be of major importance in helping to provide guidance, support and direction for this effort. There are a number of additional local agencies and individuals who ought to be identified and be a participant in this experiment in networking.

INTRODUCTION TO COMPUTING

Name _____ Tel. No._____

Address _____

_____

1. Have you ever used a computer? ( ) Yes ( ) No

2. What would you like to know or learn about computing? _____

_____

_____

_____

3. Are there specific subjects of interest to you? Please rank:

( ) Budgeting
( ) Energy alternatives
( ) Home energy audit
( ) Nutrition
( ) Consumer decisions
( ) Agricultural programs
( ) Home Gardening Planning
( ) Other (Please list)

_____

_____

4. What meeting arrangements would be best for you?

( ) 1 meeting per week for 4 weeks
( ) 2 meetings per week for 2 weeks
( ) 4 meetings in one week
_____ Other, please state: _____

Suggested time of meetings: 7:15 - 9:15 p.m.

5. Age of children: _____ _____ _____

6. Additional comments: _____

_____

_____

_____

_____

Attachment "D"

COURSE EVALUATION

Having just completed this short course in computer literacy, we would like your candid assessment of the curriculum offered. Please fill out the following questionnaire.

Curriculum Assessment - Circle the appropriate rating in regard to each aspect of curriculum and associated teaching methods listed below. The ratings may be regarded as follows: 1 - Poor; 2 - Needs improvement; 3 - Satisfactory; 4 - Good; 5 - Very good. Circle one per category.

1.	Introduction to Computing	1	2	3	4	5
2.	Program Operation	1	2	3	4	5
3.	Introduction to Word Processing	1	2	3	4	5
4.	Eat Smart	1	2	3	4	5
5.	Introduction to 4-H Program Software	1	2	3	4	5

In response to the following questions, circle either Y for Yes, N for No or I for In-between or In-part.

1. Y N I Did the course provide you with a basic understanding of desktop computing to the point that you feel confident enough to independently use a computer at home or in your work?

2. Y N I Do you believe that you are better qualified to select a desktop computer system for your home or work?

3. Y N I Was the technical content of the course offered at a level you could follow?

4. Y N I Do you currently anticipate purchase of a desktop or personal computer within the coming year?

In a few words, please respond to the following questions:

1. What part of the course did you enjoy the most?

_____

_____

2. What part of the course was most difficult to comprehend? _____

_____

_____

3. If a follow-up course was offered, what topics on desktop computing would you like to see emphasized? _____

_____

_____

4. ( ) Yes ( ) No If this course, in its current style, is offered locally, would you recommend it to your friends?

5. ( ) Yes ( ) No If another session or two are offered to allow additional practice time (without formal instruction or lectures) would you attend?

6. ( ) Yes ( ) No Do you feel you know enough about computing to assist others in an introduction to computing?